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June 20, 2016

United States Environmental Protection Agency
Region II
Emergency and Remedial Response Division
Diamond Alkali Superfund Site
290 Broadway, 19th Floor, Room W-20
New York, NY 10007-1866
Attention: Ms. Elizabeth Butler, Remedial Project Manager

Re: Monthly Progress Report No. 318
Diamond Alkali Superfund Site
Newark, New Jersey
Work Period: May 2016

Dear Ms. Butler:

On behalf of Occidental Chemical Corporation, submitted herewith is one (1) copy of Monthly Progress Report No. 318 for work performed during May 2016 at the Diamond Alkali Superfund Site in Newark, New Jersey. Also included as Appendix D are revised Summary of Groundwater Levels in Piezometers tables for Monthly Progress Report Nos. 310-317. This progress report has been prepared pursuant with Section XIV.A of the Consent Decree between United States of America, The State of New Jersey, and Occidental Chemical Corporation, Civil Action No. 89-5064 (JWB) (United States District Court for the District of New Jersey).

Please call me at 732/579-7586 if you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Brian Mikucki".

Brian Mikucki
On behalf of Occidental Chemical Corporation
(as successor to Diamond Shamrock Chemicals Company)

Enclosures

1c: Chief, New Jersey Superfund Branch

Office of Regional Counsel
United States Environmental Protection Agency
Region II
290 Broadway, 17th Floor
New York, NY 10007-1866
Attention: Diamond Alkali Site Attorney

3c: New Jersey Department of Environmental Protection
Bureau of Case Management, Site Remediation Program
Mail Code 401-05F
P.O. Box 420
Trenton, NJ 08625-0420
Attention: Mr. Jay Nickerson

MONTHLY PROGRESS REPORT NO. 318
DIAMOND ALKALI SUPERFUND SITE
NEWARK, NEW JERSEY
WORK PERIOD: May 2016

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(1) Work Performed:

- (a) Tierra Solutions, Inc. (Tierra) performed operation and maintenance (O&M) activities at the Diamond Alkali Superfund Site (the Site) in accordance with the United States Environmental Protection Agency- (USEPA) approved *Operation and Maintenance Plan* (O&M Plan, Attachment G of the *Final Modified (100%) Remedial Design Report*).
- (b) Inspection and monitoring activities, as required by Sections 10 through 12 in the O&M Plan, were conducted at the Site on May 9, 2016. A checklist of the inspection and monitoring activities performed at the Site during May 2016 is included in Appendix A to this report.
- (c) Tierra submitted the April 2016 Monthly Report and Discharge Monitoring Report to the USEPA on May 18, 2016.
- (d) Continued to operate the Groundwater Withdrawal System (GWWS) and Groundwater Treatment System (GWTS).
- (e) Effluent and process samples were collected as required. The GWTS began direct discharge to the Passaic River during the month of April 2014.

(2) Potential and/or Actual Noncompliances or Problems Encountered:

- (a) Extraction Well EW-9 is functional but out of service. The EW-9 well flow restricts flow from the riverside extraction wells in the common header system.
- (b) Extraction Well EW-5 was out of service until April 25, 2016. The well pump has historically pumped dry within a few minutes without pump shutoff.
- (c) CompuChem Laboratory abruptly ceased operations on January 13, 2016. As a result Tierra had to procure a replacement laboratory to perform all non-dioxin analyses including metals. The procurement process yielded the absence of a laboratory which was able to perform the current metals method (ILM 04.1).

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- (d) It was found after data validation, that Eurofins Lancaster had been performing alternative analytical methods than those required in the DASS OMM QAPP, for hexavalent chromium, total petroleum hydrocarbons (SGT-HEM), and total organic carbon (TOC) for the April and May 2016 effluent sampling events.

(3) Corrective Actions:

- (a) Corrective measures will be evaluated for EW-9 to mitigate flow restrictions on other extraction wells, but will remain off-line in the interim in order to facilitate flow from the riverside extraction wells.
- (b) Extraction Well EW-5 was placed in service on April 25, 2016. Additional pump level controls were added to EW-5. The well is being monitored to evaluate the well's output over time and pump performance.
- (c) As part of the Remedy Evaluation process, Tierra recommended changing analytical methods, one of which was updating the metals method from CLP ILM 04.1 to CLP ISM 02.3. In a letter to USEPA dated March 18, 2016, Tierra requested EPA approval to use CLP ISM 02.3 for metals, mercury and cyanide. In addition, Tierra also requested approval to use SOM02.3 for analyses of volatile organic compounds, semivolatile organic compounds and pesticides. USEPA granted approval for use of CLP ISM 02.3 and SOM02.3 on an interim basis pending final USEPA review of the RER in a letter dated March 29, 2016.
- (d) In an email dated June 2, 2016, Tierra notified USEPA of the issue identified with the laboratory. USEPA provided acknowledgement of the error, and deemed that the alternative methods performed by laboratory were acceptable in this case, but should be corrected moving forward. Analytical methods required in the QAPP, were identified with the laboratory, and corrected prior to the June 2016 sampling event, and will be performed in future compliance sampling events.

(4) Final Results of Sampling or Testing:

- (a) Methane gas monitoring results for May 2016 are reported in Appendix B.
- (b) Groundwater level measurements for May 2016 are reported in Appendix B.
- (c) Validated effluent analytical results for May 2016 are reported in Appendix B.

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(5) Future Work Scheduled:

- (a) Continue to operate and monitor the GWWS, GWTS, and sand layer drainage collection system.
- (b) Inspection and monitoring activities will be performed at the Site in accordance with Sections 10 through 12 in the O&M Plan.
- (c) Effluent and process samples will continue to be collected, as required.
- (d) Treated effluent from the GWTS will continue to be discharged to the Passaic River.

(6) Work Completion Estimates, Delays, and Mitigation Actions:

(a) Work Completion Estimates:

- i. Mobilization / Site preparation – 100% complete
- ii. Slurry wall construction – 100% complete
- iii. Floodwall construction – 100% complete
- iv. Demolition of Structures – 100% complete
- v. Handling of shipping containers – 100% complete
- vi. Stabilization of drum and tank contents – 100% complete
- vii. Underground conduit sealing – 100% complete
- viii. Placement of secured materials construction – 100% complete
- ix. Groundwater withdrawal system – 100% complete
- x. Groundwater treatment system – 100% complete
- xi. Surficial Cap – 100% complete
- xii. Attainment of Hydraulic Gradient – 100% complete

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 - xv. USEPA Approval of Final Report for Remedial Construction – 100% complete
 - xvi. Preparation of REWP – 100% complete
 - xvii. USEPA Approval of QAPP for the Groundwater Quality Monitoring Program – 100% complete
 - xviii. USEPA Approval of REWP – 100% complete
 - xix. USEPA Approval of Revisions to SAMP and QAPP Associated with the Operations and Maintenance Plan – 100% complete
 - xx. Preparation of RER – 100% complete
 - xxi. USEPA Approval of RER – 0% complete
- (b) Delays and Mitigation Actions – None.

Appendix A

**Monthly Inspection Checklist
Diamond Alkali Superfund Site
Newark, New Jersey**

Date: 5/9/2016

Representative: Ryan Adair

	Description	Yes	No	Actions	Comments
1	Floodwall, curbwall, and fencing along curbwall intact?	X		No maintenance required	None
2	Perimeter and interior drains open and functional?	X		No maintenance required	None
3	Gabions intact?	X		No maintenance required	None
4	Perimeter fence intact?	X		No maintenance required	None
5	Entry gates intact?	X		No maintenance required	None
6	Paved and gravel roadways intact?	X		No maintenance required	None
7	Piezometers and gas vents intact?	X		No maintenance required	None
8	Surficial cap surface intact and no signs of significant ponding?	X		No maintenance required	None
9	Extraction well chambers and interior piping intact?	X		No maintenance required	None
10	Secondary containment intact for Tank T-1?	X		No maintenance required	None
11	Tanks T-1 and T-8 and associated aboveground piping intact?	X		No maintenance required	None
12	Stormwater management controls operating properly?	X		No maintenance required	None
13	Sand Layer Drainage Collection System- Trench drains & Weirs	X		No maintenance required	None
14	Sand Layer Drainage Collection System- Aboveground piping (floodwall & to GWTP)	X		No maintenance required	None
15	Bubbler system operating properly for effluent tank?	NA		No maintenance required	Frac tanks are no longer in use for storage of treated effluent
16	Effluent tanks locked appropriately?	X		No maintenance required	None
17	Exterior of groundwater treatment system building intact?	X		No maintenance required	None
18	Interior of groundwater treatment system building intact?	X		No maintenance required	None
19	Secondary containment inside the groundwater treatment system building intact?	X		No maintenance required	None
20	Floor sealant inside the groundwater treatment system building intact?	X		No maintenance required	None
21	Sump pumps inside the groundwater treatment system building operating properly?	X		No maintenance required	None
22	Containers stored in the residual storage area intact?	X		No maintenance required	None
23	Groundwater measurements taken for piezometers and extraction wells?	X		No maintenance required	Collected on 05/09/16
24	Groundwater measurements taken from vibrating wire piezometers?	NA		No maintenance required	No Longer Collect vibrating Wire data
25	Gas vents monitored for the presence of methane gas (inspect monthly)?	X		No maintenance required	Collected on 05/09/16
26	Automated security system functioning properly (inspect monthly)?	X		No maintenance required	None
27	Floodwall visually observed with no observations of cracking, deterioration nor damage?	X		No maintenance required	As observed from the site

**Monthly Inspection of Interior Rooms Inside the Groundwater Treatment Building
Diamond Alkali Superfund Site
Newark, New Jersey**

1. Residual Storage Area

No issues observed, no maintenance required.

Odor Check: Normal Conditions

2 Laboratory

No issues observed, no maintenance required.

Odor Check: Normal Conditions

3. Sludge Room

No issues observed, no maintenance required.

Odor Check: Normal Conditions

4. Bathroom

No issues observed, no maintenance required.

Odor Check: Normal Conditions

5. Locker Room

No issues observed, no maintenance required.

Odor Check: Normal Conditions

6. Decontamination Area

No issues observed, no maintenance required.

Odor Check: Normal Conditions

7. Control Room/Office/Hallway

No issues observed, no maintenance required.

Odor Check: Normal Conditions

8. Process Area

No issues observed, no maintenance required.

Odor Check: Normal Conditions

No issues observed, no maintenance required.

Date: 5/9/16

Personnel: Ryan Adair

Appendix B

**Methane Gas Monitoring Summary
Diamond Alkali Superfund Site
Newark, New Jersey**

May 2016

Gas Vent	Location	CGI Reading				FID Reading (ppm)			PID Reading (ppm)
		CO	H2S	LEL	OXY	Initial	1min	2 min	Initial
GV-1	NW corner- along adjacent property	0.0	0.0	0.0	20.9	0.0	NM	NM	0.0
GV-2	NW corner- along Passaic River	0.0	0.0	0.0	20.9	7.0	1.6	0.0	0.0
GV-3	Along Passaic River- center of lot	0.0	0.0	0.0	20.9	54.0	11.7	4.3	0.0
GV-4	NE corner	0.0	0.0	0.0	20.9	0.0	NM	NM	0.0
GV-5	W property line- center	0.0	0.0	0.0	20.9	0.0	NM	NM	0.0
GV-6	Top of cap- NW end	0.0	0.0	0.0	20.9	10.0	2.4	0.0	0.0
GV-7	Top of cap- center	0.0	0.0	0.0	20.9	19.8	8.4	4.6	0.0
GV-8	Top of cap- E end	0.0	0.0	0.0	20.9	2.0	0.0	0.0	0.0
GV-9	Corner of GWTP and T-8	0.0	0.0	0.0	20.9	0.0	NM	NM	0.0
GV-10	Behind T-8	0.0	0.0	0.0	20.9	0.0	NM	NM	0.0
GV-11	Between T-8 and T-1	0.0	0.0	0.0	20.9	0.0	NM	NM	0.0
GV-12	SW property line- W corner	0.0	0.0	0.0	20.9	0.0	NM	NM	0.0
GV-13	SW property line- center	0.0	0.0	0.0	20.9	0.0	NM	NM	0.0
GV-14	SE corner of GWTP	0.0	0.0	0.0	20.9	0.0	NM	NM	0.0

Notes:

1. Combustible Gas Indicator (CGI) and Photoionization Detector (PID) was a MultiRae Plus from US Environmental
2. Flame Ionization Detector (FID) was a Photovac MicroFID from US Environmental
3. FID readings were not required at 1 minute and 2 minutes after if the presence of gas was not detected initially.
4. Methane gas monitoring performed on May 09, 2016.

**Diamond Alkali Superfund Site
Newark, New Jersey**

Summary of Groundwater Levels in Piezometers
May-16

Well ID	GCP 1-1	GCP 2-1	GCP 3-1	GCP 4-1	GCP 5-1	GCP 6-1	GCP 7-1	GCP 8-1	GCP 9-1
8/31/2009 TOIC Elevation*	14.14	15.72	13.86	12.90	12.86	14.17	13.84	13.76	15.07
Depth to Water (ft btoc)	12.33	14.78	11.53	9.94	10.00	10.97	10.79	10.71	12.60
Total Depth	24.00	27.71	24.32	13.81	12.73	15.40	13.92	14.68	16.06
Monitoring Date	Monitoring Time	Groundwater Elevations							
5/9/2016	12:44 - 13:39	1.81	0.94	2.33	2.96	2.86	3.20	3.05	2.47

Well ID	GCP 1-2	GCP 3-2	GCP 4-2	GCP 5-2	GCP 6-2	GCP 7-2	GCP 8-2	GCP 9-2
8/31/2009 TOIC Elevation*	14.06	13.78	12.38	12.91	13.37	13.55	12.62	11.98
Depth to Water (ft btoc)	12.09	11.96	8.35	7.43	11.62	9.92	9.11	7.48
Total Depth	43.69	43.69	13.67	12.64	43.62	14.39	13.01	13.12
Monitoring Date	Monitoring Time	Groundwater Elevations						
5/9/2016	12:44 - 13:39	1.97	1.82	4.03	5.48	1.75	3.63	4.50

Well ID	GCP 6-3	GCP 8-3	IP-1	IP-2	IP-3	IP-4	IP-5	IP-6
8/31/2009 TOIC Elevation*	13.24	12.96					23.17	22.65
Depth to Water (ft btoc)	8.88	11.00	0.00	0.00	0.00	0.00	20.29	19.81
Total Depth	14.15	40.11	na	na	na	na	24.02	24.00
Monitoring Date	Monitoring Time	Groundwater Elevations						
5/9/2016	12:44 - 13:39	4.36	1.96	0.00	0.00	0.00	0.00	2.88

Notes:

* - TOIC is referenced to final PVC riser pipe elevations surveyed on August 31, 2009 by DPK Consulting

Elevations refer to groundwater levels in monitoring wells and piezometer based on NGVD 29 in feet above mean sea level (ft-amsl).

The depths of GCP 6-2 and GCP 6-3 differ from the design drawings. GCP 6-2 is screened in the glaciofluvial sand and GCP 6-3 is screened in fill material.

"-" means no reading.

"na" - not applicable. These four points are Vibrating Wire Piezometers and are sealed in place beneath the cap layers.

"btoc" - Below Top of Casing

MAY 2016 SUPPLEMENTAL TABLE FOR MONTHLY DISCHARGE MONITORING REPORT
DIAMOND ALKALI SUPERFUND SITE
NEWARK, NEW JERSEY

Constituent	Permit Limitation		Sample ID:	W-TSI-EFF-050216	W-TSI-EFF-DUP-050216	TB-050216-691R
	Monthly Avg.	Daily Max	Sample Date:	5/2/2016	5/2/2016	5/2/2016
			SDG Number:	LISTER691R	LISTER691R	LISTER691R
			Units			
Total Suspended Solids(TSS)	30	50	mg/l	10 U	10 U	-
Total Organic Carbon (TOC)	-	40	mg/l	1.0 U	1.0 U	-
Petroleum Hydrocarbons	10	15	mg/l	5.0 U	5.0 U	-
pH	-	6 - 9	SU	7.8 R	7.80 R	-
2,4,6-Trichlorophenol	115	260	µg/l	5 U	5 U	-
2-Chlorophenol	35	125	µg/l	5 U	5 U	-
2,4-Dichlorophenol	23	150	µg/l	5 U	5 U	-
Phenol	23	40	µg/l	23 U	23 U	-
1,2,4-Trichlorobenzene	45	90	µg/l	5.0 U	5.0 U	5.0 U
Hexachlorobenzene	22	40	µg/l	22 U	22 U	-
1,2-Dichlorobenzene	40	110	µg/l	5.0 U	5.0 U	5.0 U
1,3-Dichlorobenzene	25	35	µg/l	5.0 U	5.0 U	5.0 U
1,4-Dichlorobenzene	18	45	µg/l	5.0 U	5.0 U	5.0 U
Fluoranthene	-	16	µg/l	10 U	10 U	-
Naphthalene	35	105	µg/l	5 U	5 U	-
Phenanthrene	35	105	µg/l	5 U	5 U	-
Benzene	21	57	µg/l	5.0 U	5.0 U	5.0 U
Chlorobenzene	23	45	µg/l	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	30	85	µg/l	5.0 U	5.0 U	5.0 U
1,1,1-Trichloroethane	25	65	µg/l	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	25	65	µg/l	5.0 U	5.0 U	5.0 U
Chloroform	20	40	µg/l	5.0 U	5.0 U	5.0 U
1,2-Dichloroethene (Total)	25	65	µg/l	5 U	5 U	-
trans-1,2-Dichloroethene	25	65	µg/l	5.0 U	5.0 U	5.0 U
Ethylbenzene	-	430	µg/l	5.0 U	5.0 U	5.0 U
Toluene	18	35	µg/l	5.0 U	5.0 U	5.0 U
Trichloroethene	25	65	µg/l	5.0 U	5.0 U	5.0 U
Vinyl Chloride	25	65	µg/l	5.0 U	5.0 U	5.0 U
4,4-DDT	-	0.34	µg/l	0.34 U	0.34 U	-
4,4-DDE	-	14	µg/l	0.35 U	0.35 U	-
Endosulfan I	32	90	µg/l	0.05 U	0.05 U	-
2,4-D	1,500	3,300	µg/l	11 U	11 U	-
2,4-DB	17	25	µg/l	16 U	16 U	-
Dinoseb (DNBP)	420	790	µg/l	1.6 U	1.6 U	-
Dioxin (2,3,7,8-TCDD)	-	0.000081	µg/l	0.000081 U	0.000081 U	-
Total Recoverable Antimony	200	305	µg/l	60 U	60 U	-
Total Recoverable Arsenic	50	115	µg/l	10 U	10 U	-
Total Recoverable Beryllium	-	8.6	µg/l	8.6 U	8.6 U	-
Total Recoverable Cadmium	-	31	µg/l	31 U	31 U	-
Hexavalent Chromium	-	66	µg/l	66 U	66 U	-
Trivalent Chromium	-	44	µg/l	44 U	44 U	-
Total Recoverable Copper	-	62	µg/l	62 U	62 U	-
Total Recoverable Lead	-	18	µg/l	18 U	18 U	-
Total Recoverable Mercury	-	3.4	µg/l	3.4 U	3.4 U	-
Total Recoverable Nickel	-	73	µg/l	73 U	73 U	-
Total Recoverable Silver	-	69	µg/l	69 U	69 U	-
Total Recoverable Zinc	-	47	µg/l	47 U	47 U	-
Total Cyanide	-	78	µg/l	78 U	78 U	-

Notes:

mg/l - Milligrams/liter

µg/l - Micrograms/liter

SU - Standard units

- - Not analyzed or not applicable

U - Constituent was not detected above the associated detection limit

R - Result is rejected.

Trivalent Chromium Concentration is calculated based on the total and hexavalent chromium results.

Appendix C

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 - xxi. USEPA Approval of RER – 0% complete
- (b) Delays and Mitigation Actions – None.

Appendix D

**Diamond Alkali Superfund Site
Newark, New Jersey**

Summary of Groundwater Levels in Piezometers
Sep-15

Well ID	GCP 1-1	GCP 2-1	GCP 3-1	GCP 4-1	GCP 5-1	GCP 6-1	GCP 7-1	GCP 8-1	GCP 9-1
8/31/2009 TOIC Elevation*	14.14	15.72	13.86	12.90	12.86	14.17	13.84	13.76	15.07
Depth to Water (ft btoc)	12.76	14.30	12.12	9.97	10.15	11.12	10.61	10.53	12.36
Total Depth	23.98	24.67	24.32	13.76	12.72	15.15	13.92	14.61	16.05
Monitoring Date	Monitoring Time	Groundwater Elevations							
9/11/2015	14:01 - 15:01	1.38	1.42	1.74	2.93	2.71	3.05	3.23	2.71

Well ID	GCP 1-2	GCP 3-2	GCP 4-2	GCP 5-2	GCP 6-2	GCP 7-2	GCP 8-2	GCP 9-2
8/31/2009 TOIC Elevation*	14.06	13.78	12.38	12.91	13.37	13.55	12.62	11.98
Depth to Water (ft btoc)	12.97	12.52	9.41	8.35	11.94	10.13	9.14	8.67
Total Depth	43.66	43.71	13.72	12.63	43.60	14.37	13.02	13.11
Monitoring Date	Monitoring Time	Groundwater Elevations						
9/11/2015	14:01 - 15:01	1.09	1.26	2.97	4.56	1.43	3.42	3.31

Well ID	GCP 6-3	GCP 8-3	IP-1	IP-2	IP-3	IP-4	IP-5	IP-6
8/31/2009 TOIC Elevation*	13.24	12.96					23.17	22.65
Depth to Water (ft btoc)	9.54	11.40	0.00	0.00	0.00	0.00	20.06	19.48
Total Depth	14.21	40.80	na	na	na	na	24.03	24.02
Monitoring Date	Monitoring Time	Groundwater Elevations						
9/11/2015	14:01 - 15:01	3.70	1.56	0.00	0.00	0.00	0.00	3.11

Notes:

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Elevations refer to groundwater levels in monitoring wells and piezometer based on NGVD 29 in feet above mean sea level (ft-amsl).

The depths of GCP 6-2 and GCP 6-3 differ from the design drawings. GCP 6-2 is screened in the glaciofluvial sand and GCP 6-3 is screened in fill material.

"-" means no reading.

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"btoc" - Below Top of Casing

**Diamond Alkali Superfund Site
Newark, New Jersey**

Summary of Groundwater Levels in Piezometers
Oct-15

Well ID	GCP 1-1	GCP 2-1	GCP 3-1	GCP 4-1	GCP 5-1	GCP 6-1	GCP 7-1	GCP 8-1	GCP 9-1
8/31/2009 TOIC Elevation*	14.14	15.72	13.86	12.90	12.86	14.17	13.84	13.76	15.07
Depth to Water (ft btoc)	11.82	13.91	11.39	9.75	9.89	10.75	10.57	10.51	11.84
Total Depth	23.36	27.70	24.38	13.80	12.73	15.20	13.92	14.67	16.04
Monitoring Date	Monitoring Time	Groundwater Elevations							
10/13/2015	11:04 - 11:57	2.32	1.81	2.47	3.15	2.97	3.42	3.27	3.25

Well ID	GCP 1-2	GCP 3-2	GCP 4-2	GCP 5-2	GCP 6-2	GCP 7-2	GCP 8-2	GCP 9-2
8/31/2009 TOIC Elevation*	14.06	13.78	12.38	12.91	13.37	13.55	12.62	11.98
Depth to Water (ft btoc)	11.60	11.48	8.43	9.94	11.18	9.90	9.09	7.44
Total Depth	43.75	43.70	13.72	12.64	43.62	14.40	13.04	13.12
Monitoring Date	Monitoring Time	Groundwater Elevations						
10/13/2015	11:04 - 11:57	2.46	2.30	3.95	2.97	2.19	3.65	4.54

Well ID	GCP 6-3	GCP 8-3	IP-1	IP-2	IP-3	IP-4	IP-5	IP-6
8/31/2009 TOIC Elevation*	13.24	12.96					23.17	22.65
Depth to Water (ft btoc)	9.01	10.56	0.00	0.00	0.00	0.00	20.06	19.72
Total Depth	14.22	40.85	na	na	na	na	24.05	23.98
Monitoring Date	Monitoring Time	Groundwater Elevations						
10/13/2015	11:04 - 11:57	4.23	2.40	0.00	0.00	0.00	0.00	3.11

Notes:

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Elevations refer to groundwater levels in monitoring wells and piezometer based on NGVD 29 in feet above mean sea level (ft-amsl).

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"btoc" - Below Top of Casing

**Diamond Alkali Superfund Site
Newark, New Jersey**

Summary of Groundwater Levels in Piezometers
Nov-15

Well ID	GCP 1-1	GCP 2-1	GCP 3-1	GCP 4-1	GCP 5-1	GCP 6-1	GCP 7-1	GCP 8-1	GCP 9-1
8/31/2009 TOIC Elevation*	14.14	15.72	13.86	12.90	12.86	14.17	13.84	13.76	15.07
Depth to Water (ft btoc)	12.59	14.15	11.97	9.85	10.05	10.92	10.65	10.58	12.22
Total Depth	24.19	27.78	24.58	13.94	12.73	15.16	14.09	14.83	16.24
Monitoring Date	Monitoring Time	Groundwater Elevations							
11/5/2015	9:07 - 10:02	1.55	1.57	1.89	3.05	2.81	3.25	3.19	3.18

Well ID	GCP 1-2	GCP 3-2	GCP 4-2	GCP 5-2	GCP 6-2	GCP 7-2	GCP 8-2	GCP 9-2
8/31/2009 TOIC Elevation*	14.06	13.78	12.38	12.91	13.37	13.55	12.62	11.98
Depth to Water (ft btoc)	12.81	12.39	9.34	8.18	11.88	10.12	9.29	8.03
Total Depth	43.83	43.87	13.89	12.62	43.59	14.56	13.21	13.29
Monitoring Date	Monitoring Time	Groundwater Elevations						
11/5/2015	9:07 - 10:02	1.25	1.39	3.04	4.73	1.49	3.43	3.33

Well ID	GCP 6-3	GCP 8-3	IP-1	IP-2	IP-3	IP-4	IP-5	IP-6
8/31/2009 TOIC Elevation*	13.24	12.96					23.17	22.65
Depth to Water (ft btoc)	9.18	11.37	0.00	0.00	0.00	0.00	20.10	19.64
Total Depth	14.23	40.09	na	na	na	na	24.23	24.02
Monitoring Date	Monitoring Time	Groundwater Elevations						
11/5/2015	9:07 - 10:02	4.06	1.59	0.00	0.00	0.00	0.00	3.07

Notes:

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Elevations refer to groundwater levels in monitoring wells and piezometer based on NGVD 29 in feet above mean sea level (ft-amsl).

The depths of GCP 6-2 and GCP 6-3 differ from the design drawings. GCP 6-2 is screened in the glaciofluvial sand and GCP 6-3 is screened in fill material.

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**Diamond Alkali Superfund Site
Newark, New Jersey**

Summary of Groundwater Levels in Piezometers
Dec-15

Well ID	GCP 1-1	GCP 2-1	GCP 3-1	GCP 4-1	GCP 5-1	GCP 6-1	GCP 7-1	GCP 8-1	GCP 9-1
8/31/2009 TOIC Elevation*	14.14	15.72	13.86	12.90	12.86	14.17	13.84	13.76	15.07
Depth to Water (ft btoc)	13.13	14.82	12.17	10.05	10.20	11.09	10.83	10.75	12.62
Total Depth	24.05	27.80	24.03	13.84	12.80	15.24	14.00	14.70	16.12
Monitoring Date	Monitoring Time	Groundwater Elevations							
12/7/2015	9:46 - 10:20	1.01	0.90	1.69	2.85	2.66	3.08	3.01	2.45

Well ID	GCP 1-2	GCP 3-2	GCP 4-2	GCP 5-2	GCP 6-2	GCP 7-2	GCP 8-2	GCP 9-2
8/31/2009 TOIC Elevation*	14.06	13.78	12.38	12.91	13.37	13.55	12.62	11.98
Depth to Water (ft btoc)	13.52	12.94	9.46	8.10	12.31	10.24	9.36	8.13
Total Depth	43.78	43.81	13.80	12.15	43.70	14.45	13.09	13.17
Monitoring Date	Monitoring Time	Groundwater Elevations						
12/7/2015	9:46 - 10:20	0.54	0.84	2.92	4.81	1.06	3.31	3.26

Well ID	GCP 6-3	GCP 8-3	IP-1	IP-2	IP-3	IP-4	IP-5	IP-6
8/31/2009 TOIC Elevation*	13.24	12.96					23.17	22.65
Depth to Water (ft btoc)	9.30	11.87	0.00	0.00	0.00	0.00	20.34	19.96
Total Depth	14.25	40.91	na	na	na	na	24.12	24.01
Monitoring Date	Monitoring Time	Groundwater Elevations						
12/7/2015	9:46 - 10:20	3.94	1.09	0.00	0.00	0.00	0.00	2.83

Notes:

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Elevations refer to groundwater levels in monitoring wells and piezometer based on NGVD 29 in feet above mean sea level (ft-amsl).

The depths of GCP 6-2 and GCP 6-3 differ from the design drawings. GCP 6-2 is screened in the glaciofluvial sand and GCP 6-3 is screened in fill material.

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"btoc" - Below Top of Casing

**Diamond Alkali Superfund Site
Newark, New Jersey**

Summary of Groundwater Levels in Piezometers
Jan-16

Well ID	GCP 1-1	GCP 2-1	GCP 3-1	GCP 4-1	GCP 5-1	GCP 6-1	GCP 7-1	GCP 8-1	GCP 9-1
8/31/2009 TOIC Elevation*	14.14	15.72	13.86	12.90	12.86	14.17	13.84	13.76	15.07
Depth to Water (ft btoc)	12.85	14.94	12.03	9.90	9.92	10.71	10.88	10.60	12.29
Total Depth	23.95	27.43	24.00	13.96	12.69	15.12	13.91	14.61	16.01
Monitoring Date	Monitoring Time	Groundwater Elevations							
1/8/2016	12:50 - 13:53	1.29	0.78	1.83	3.00	2.94	3.46	2.96	3.16

Well ID	GCP 1-2	GCP 3-2	GCP 4-2	GCP 5-2	GCP 6-2	GCP 7-2	GCP 8-2	GCP 9-2
8/31/2009 TOIC Elevation*	14.06	13.78	12.38	12.91	13.37	13.55	12.62	11.98
Depth to Water (ft btoc)	13.03	12.55	9.35	7.80	11.91	9.90	9.11	8.05
Total Depth	43.64	43.67	13.70	12.62	43.55	14.35	12.98	13.08
Monitoring Date	Monitoring Time	Groundwater Elevations						
1/8/2016	12:50 - 13:53	1.03	1.23	3.03	5.11	1.46	3.65	3.51

Well ID	GCP 6-3	GCP 8-3	IP-1	IP-2	IP-3	IP-4	IP-5	IP-6
8/31/2009 TOIC Elevation*	13.24	12.96					23.17	22.65
Depth to Water (ft btoc)	8.86	11.47	0.00	0.00	0.00	0.00	20.22	19.75
Total Depth	14.08	40.80	na	na	na	na	24.00	23.95
Monitoring Date	Monitoring Time	Groundwater Elevations						
1/8/2016	12:50 - 13:53	4.38	1.49	0.00	0.00	0.00	0.00	2.95

Notes:

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Elevations refer to groundwater levels in monitoring wells and piezometer based on NGVD 29 in feet above mean sea level (ft-amsl).

The depths of GCP 6-2 and GCP 6-3 differ from the design drawings. GCP 6-2 is screened in the glaciofluvial sand and GCP 6-3 is screened in fill material.

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"btoc" - Below Top of Casing

**Diamond Alkali Superfund Site
Newark, New Jersey**

Summary of Groundwater Levels in Piezometers
Feb-16

Well ID	GCP 1-1	GCP 2-1	GCP 3-1	GCP 4-1	GCP 5-1	GCP 6-1	GCP 7-1	GCP 8-1	GCP 9-1
8/31/2009 TOIC Elevation*	14.14	15.72	13.86	12.90	12.86	14.17	13.84	13.76	15.07
Depth to Water (ft btoc)	11.65	13.59	11.30	9.64	9.68	10.29	10.46	10.35	11.78
Total Depth	24.00	27.75	24.35	13.76	12.70	15.20	13.90	14.60	16.05
Monitoring Date	Monitoring Time	Groundwater Elevations							
2/11/2016	11:52 - 12:42	2.49	2.13	2.56	3.26	3.18	3.88	3.38	3.41

Well ID	GCP 1-2	GCP 3-2	GCP 4-2	GCP 5-2	GCP 6-2	GCP 7-2	GCP 8-2	GCP 9-2
8/31/2009 TOIC Elevation*	14.06	13.78	12.38	12.91	13.37	13.55	12.62	11.98
Depth to Water (ft btoc)	11.26	11.18	7.54	7.51	10.72	9.30	8.71	7.03
Total Depth	43.60	43.64	14.68	12.63	43.50	14.35	13.00	13.10
Monitoring Date	Monitoring Time	Groundwater Elevations						
2/11/2016	11:52 - 12:42	2.80	2.60	4.84	5.40	2.65	4.25	3.91

Well ID	GCP 6-3	GCP 8-3	IP-1	IP-2	IP-3	IP-4	IP-5	IP-6
8/31/2009 TOIC Elevation*	13.24	12.96					23.17	22.65
Depth to Water (ft btoc)	8.17	10.04	0.00	0.00	0.00	0.00	20.12	19.72
Total Depth	14.20	40.75	na	na	na	na	24.00	24.00
Monitoring Date	Monitoring Time	Groundwater Elevations						
2/11/2016	11:52 - 12:42	5.07	2.92	0.00	0.00	0.00	0.00	3.05

Notes:

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The depths of GCP 6-2 and GCP 6-3 differ from the design drawings. GCP 6-2 is screened in the glaciofluvial sand and GCP 6-3 is screened in fill material.

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"btoc" - Below Top of Casing

**Diamond Alkali Superfund Site
Newark, New Jersey**

Summary of Groundwater Levels in Piezometers
Mar-16

Well ID	GCP 1-1	GCP 2-1	GCP 3-1	GCP 4-1	GCP 5-1	GCP 6-1	GCP 7-1	GCP 8-1	GCP 9-1
8/31/2009 TOIC Elevation*	14.14	15.72	13.86	12.90	12.86	14.17	13.84	13.76	15.07
Depth to Water (ft btoc)	12.82	14.53	12.04	9.76	9.83	10.58	10.50	10.60	12.00
Total Depth	23.90	27.78	24.41	13.74	12.72	15.14	13.91	14.64	16.50
Monitoring Date	Monitoring Time	Groundwater Elevations							
3/7/2016	13:04 - 13:54	1.32	1.19	1.82	3.14	3.03	3.59	3.34	3.16

Well ID	GCP 1-2	GCP 3-2	GCP 4-2	GCP 5-2	GCP 6-2	GCP 7-2	GCP 8-2	GCP 9-2
8/31/2009 TOIC Elevation*	14.06	13.78	12.38	12.91	13.37	13.55	12.62	11.98
Depth to Water (ft btoc)	13.37	12.75	9.27	7.63	11.97	9.69	9.15	7.70
Total Depth	43.61	42.65	13.11	12.67	43.52	14.37	13.01	13.09
Monitoring Date	Monitoring Time	Groundwater Elevations						
3/7/2016	13:04 - 13:54	0.69	1.03	3.11	5.28	1.40	3.86	4.28

Well ID	GCP 6-3	GCP 8-3	IP-1	IP-2	IP-3	IP-4	IP-5	IP-6
8/31/2009 TOIC Elevation*	13.24	12.96					23.17	22.65
Depth to Water (ft btoc)	8.98	11.55	0.00	0.00	0.00	0.00	20.03	19.74
Total Depth	14.16	40.75	na	na	na	na	23.98	23.98
Monitoring Date	Monitoring Time	Groundwater Elevations						
3/7/2016	13:04 - 13:54	4.26	1.41	0.00	0.00	0.00	0.00	3.14

Notes:

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"btoc" - Below Top of Casing

**Diamond Alkali Superfund Site
Newark, New Jersey**

Summary of Groundwater Levels in Piezometers
Apr-16

Well ID	GCP 1-1	GCP 2-1	GCP 3-1	GCP 4-1	GCP 5-1	GCP 6-1	GCP 7-1	GCP 8-1	GCP 9-1
8/31/2009 TOIC Elevation*	14.14	15.72	13.86	12.90	12.86	14.17	13.84	13.76	15.07
Depth to Water (ft btoc)	12.60	14.42	12.05	9.94	10.09	11.01	10.72	10.66	12.38
Total Depth	23.97	27.62	24.29	13.73	12.71	15.17	13.93	14.63	16.05
Monitoring Date	Monitoring Time	Groundwater Elevations							
4/11/2016	12:33 - 13:52	1.54	1.30	1.81	2.96	2.77	3.16	3.12	3.10

Well ID	GCP 1-2	GCP 3-2	GCP 4-2	GCP 5-2	GCP 6-2	GCP 7-2	GCP 8-2	GCP 9-2
8/31/2009 TOIC Elevation*	14.06	13.78	12.38	12.91	13.37	13.55	12.62	11.98
Depth to Water (ft btoc)	12.16	12.00	8.75	7.72	11.74	10.05	9.27	7.77
Total Depth	43.61	43.64	13.70	12.64	43.53	14.37	13.01	13.08
Monitoring Date	Monitoring Time	Groundwater Elevations						
4/11/2016	12:33 - 13:52	1.90	1.78	3.63	5.19	1.63	3.50	3.35

Well ID	GCP 6-3	GCP 8-3	IP-1	IP-2	IP-3	IP-4	IP-5	IP-6
8/31/2009 TOIC Elevation*	13.24	12.96					23.17	22.65
Depth to Water (ft btoc)	9.17	11.23	0.00	0.00	0.00	0.00	20.20	19.73
Total Depth	14.17	41.82	na	na	na	na	24.00	23.98
Monitoring Date	Monitoring Time	Groundwater Elevations						
4/11/2016	12:33 - 13:52	4.07	1.73	0.00	0.00	0.00	0.00	2.97

Notes:

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